

# Integrating Technology and Enhancing Communication: Pre-Service Teachers' Perceptions and Collaborative Podcast Creation in English Language Education

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## ABSTRACT

The integration of technology into education has transformed traditional teaching methods, with podcasting emerging as a promising technique to enhance language acquisition. This study examines how collaborative podcasting influences pre-service teachers' communication skills and their perceptions of technology's role in English language education. Using a survey method, data were collected from fourth, sixth, and eighth-semester students who had created podcasts. Google Forms facilitated the distribution of surveys via WhatsApp groups, ensuring broad participation. Quantitative data were gathered through Likert scale items, while qualitative feedback provided deeper insights. Descriptive analysis was used to calculate mean and standard deviation for each item. The findings revealed that collaborative podcasting enhanced students' communication skills, including clarity, active listening, and teamwork. Students reported personalized learning experiences and active engagement in content creation, which fostered a supportive and interactive learning environment. The results also highlighted positive perceptions of technology as a valuable tool for language learning. Collaborative podcasting not only improved communication skills but also demonstrated the potential of technology to transform learning by promoting active participation and critical skills development. These outcomes underscore the value of podcasting in preparing pre-service teachers for real-world communication challenges. Technology integration through collaborative podcast projects positively impacts pre-service teachers' communication skills and engagement. Educators are encouraged to incorporate podcasting into language curricula to enhance skill development. Future research should explore long-term effects of podcasting on language acquisition and the adaptability of technological tools for diverse learning styles.

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## 1. INTRODUCTION

In the current digital age, technology, particularly podcasting, has become an essential component of language education, transforming how students engage with learning materials and enhancing their communication skills. Significant advancements in education have been made by digital technology, most notably in expanding the length and scope of learning opportunities as well as in developing innovative, sustainable learning environments Siraj & Kirmani (2022). The introduction of several technology tools and platforms that can improve the quality of teaching and learning has significantly changed education, especially in the field of English language learning (Mayweg-Paus et al., 2020). According to (Deswita, 2024), integrating technology into language classrooms is an essential part of modern education. Teachers can provide students with opportunities for studying beyond the classroom and enhance their learning experience by utilizing technology. One benefit of using technology to teach English to students is that it can interest them in new ways (Kannan & Ramakrishnan, 2023). The capacity of technology to customize instruction is another reason why incorporating it into English language instruction is crucial (Idris, 2023). Students' involvement and learning are facilitated by the use of technology based on their preferences. It is commonly acknowledged that English education in the current world has this problem. With the introduction of technological equipment in academic subjects, technology integration has grown more successful (Hendarwati et al., 2021).

Among the various technological tools available for enhancing English language instruction, podcasting has emerged as a dynamic and versatile educational tool with significant potential to enhance communication and collaboration skills (Yurniwati & Utomo, 2022). Podcasting is a research and communication technique that can work well with current methodologies and has the ability to reach a wider audience, let community voices be heard, and provide new insights into various situations (Singh, 2023). As an interactive and easily accessible medium, podcasts have great potential to revolutionize the way English is taught, especially in terms of enhancing communication and collaboration skills. As stated by (Selfa-Sastre et al., 2022), one of the newest online resources that has greatly enhanced EFL instruction is podcasts. Podcasts have created new opportunities for interprofessional learning assessment since they support group work, collaborative learning, improved communication skills, and technological competency. It also allows them to create educational content that can be accessed by students anytime and anywhere, offering flexibility in the teaching and learning process. Enríquez et al. (2023) highlights that the collaborative experience of designing and creating podcasts transforms subject content into meaningful knowledge, allowing students to actively construct their understanding. This aligns with the principles of constructivist learning, where flexibility in accessing educational content is crucial for deepening comprehension and engagement. Moreover, the ability to create and disseminate educational content through podcasts has been shown to promote active learning. Baecker (2022) notes that the collaborative nature of podcast production enhances students' active listening and engagement skills, further indicating the effectiveness of podcasts as an educational resource. This is echoed by Katz and Nandi (2021), who discuss the widespread adoption of podcasts in medical education, emphasizing their role in providing accessible learning materials during the COVID-19 pandemic. The on-demand nature of podcasts allows students to revisit complex topics, thereby reinforcing their understanding and retention of the material. Additionally, podcasts facilitate differentiated instruction by catering to diverse learning preferences. The findings of Rime et al. (2022) suggest that podcasts can effectively disseminate information and promote reflective practices among students, which is essential for accommodating various learning styles. This adaptability is crucial in modern educational contexts, where addressing individual student needs is increasingly recognized as a key component of effective teaching.

Furthermore, the integration of podcasts into the curriculum aligns with the growing emphasis on Technological Pedagogical Content Knowledge (TPACK) among pre-service teachers. TPACK serves as a framework that highlights the intersection of technology, pedagogy, and content knowledge, which is essential for effective teaching in the digital age (Song and Wang, 2023). As noted by (Yurniwati &

Utomo, 2022), discussions and collaborative experiences during podcast creation enhance pre-service teachers' perceptions of their technological competencies, ultimately preparing them for effective technology integration in their future classrooms. This sentiment is supported by the work of Aktaş and Özmen (2020), who found that structured training in technology integration significantly improves pre-service teachers' performance and confidence in using educational technologies. The collaborative nature of podcasting not only fosters communication skills but also encourages critical thinking and creativity among pre-service teachers (Nordin & Azahari, 2024). Research indicates that engaging in problem-based learning tasks, such as podcast creation, enhances decision-making and creative thinking skills, which are vital for innovative teaching practices (Costa et al., 2020).

However, despite all of the benefits that collaboration and technology provide to podcasting, pre-service teachers still struggle to integrate technology into their classes. One of the main challenges is group coordination, which requires precise planning and communication. In cooperative learning settings, students' participation levels varied greatly, which occasionally caused conflict between groups. Technological challenges, such as the availability of equipment for recording and editing, may also arise when producing a podcast. Ramirez (2024) assumes that technology's limited capabilities may prevent students' ability to think, and the unpredictable nature of electricity and internet connectivity may inhibit the learning process, frustrating educators and students alike. Meanwhile, similar to other cooperative learning situations, students in the same group may participate at very different levels, which could lead to conflict (Shamir-Inbal & Blau, 2021). Thus, it is crucial to comprehend how pre-service teachers view the use of technology and collaboration in podcast production.

The identified research gap in this study is the insufficient exploration of how collaborative podcast creation can specifically enhance communication skills among pre-service teachers in English language education. Although there is a body of research on technology integration in educational settings, these studies often lack a concentrated focus on podcast creation, especially as a collaborative tool that targets communication skill development. Existing literature tends to address broader aspects of technology use or individual digital tools without delving into the unique benefits of podcasts as collaborative projects. While research on technology integration in education is well-established, fewer studies have explored the specific impact of collaborative podcast creation on the communication skills of pre-service teachers, particularly in the context of English language education.

This study aims to investigate how collaborative podcast creation enhances communication skills among pre-service teachers in English language education, focusing on their perceptions of technology integration and collaborative learning. The abstract highlights that personalized and interesting learning experiences are made possible through technology and that podcast creation significantly enhances communication skills. The novelty lies in combining technology with collaborative learning to foster both educational engagement and skill development.

The study positions itself within the broader discourse of technology-enhanced language learning, particularly focusing on how digital tools can be leveraged to improve communication skills in a structured, collaborative manner. The use of podcasts is a contemporary method in educational technology, reflecting current trends in interactive and student-centered learning. The abstract emphasizes the use of technology and podcasts as resources that not only improve learning outcomes but also help students acquire critical communication skills. This aligns with current advancements in educational practices that integrate digital tools for enhanced learning experiences.

The study seeks to answer: How does collaborative podcast creation influence pre-service teachers' communication skills and their perceptions of technology integration in English language education? By understanding their views, we can identify the factors that support and hinder the use of technology in teaching, as well as develop strategies to maximize the potential of technology in English language education. The findings from this study are expected to provide valuable insights for educators, curriculum developers, and policymakers in efforts to enhance the quality of education through technology, particularly within the environment of Sriwijaya University. This study explores how collaborative podcast creation enhances communication skills among pre-service teachers in English

language education, specifically examining their perceptions of technology integration and collaborative learning. Positioned within the discourse of technology-enhanced language learning, the study highlights how podcasts can serve as a contemporary tool for developing critical communication skills through interactive, student-centered learning. By focusing on the pre-service teachers at Sriwijaya University, this research addresses an underexplored area in educational technology, offering valuable insights for educators, curriculum developers, and policymakers to enhance the quality of language education through technology.

## 2. METHODS

This study used survey study to investigate pre-service teachers' perceptions of integrating technology in creating podcasts in English language education and to examine the impact of the collaborative creation of podcasts by pre-service teachers to their development of communication skills. Students from the fourth, sixth, and eighth semesters were chosen as the sample for this study due to their experience with podcast creation in the English Education Study Program at Sriwijaya University. This experience makes them a suitable sample, as they have practical knowledge of both the technical and communicative aspects of podcasting, which aligns with the study's focus on enhancing communication skills through collaborative podcast projects. Additionally, this range of semesters allows for a comparative perspective across different stages of their academic development, providing insights into how podcasting impacts communication skills over time. The sampling method used in this study was purposive sampling. This approach was chosen to specifically target students in the fourth, sixth, and eighth semesters of the English Education Study Program at Sriwijaya University, as they have prior experience in podcast creation—a central focus of this study. By selecting students with relevant podcasting experience, the study aims to gain in-depth insights into how podcast creation influences communication skills. Although the total sample initially included 196 students, only 113 students ultimately participated, which reflects both their availability and their alignment with the study's criteria. All participants were contacted via WhatsApp containing information related to the research project. To protect participants' personal information, all data were kept inaccessible to the public.

In this study, informed consent was obtained by presenting a consent form at the beginning of the online survey distributed via Google Forms. Participants were informed about the study's purpose and assurances that their responses would remain confidential. They could only proceed with the survey after agreeing to these terms, which constituted their consent to participate. To ensure anonymity, the survey did not collect any identifying information, such as names or student ID numbers. Instead, responses were recorded anonymously, and data were stored securely to prevent unauthorized access. Additionally, approval for this study was sought and granted by the ethics committee of Sriwijaya University, ensuring that the research adhered to ethical standards for participant protection, data confidentiality, and informed consent. The survey used in this study was directly adopted from questionnaires developed by Inderawati (2024) that underwent a validation process, which included expert reviews. The adoption of this validated instrument provided confidence in the accuracy of responses and allowed for a structured, reliable assessment aligned with the study objectives. The questionnaire includes 30 closed-ended items. Statements number 1-15 concerns pre-service teachers' perceptions of integrating technology in creating podcast in English language education which includes statements about attitude, comfort level, and perceived usefulness of technology in teaching and learning, statements number 16-30 are relate to the impact of the collaborative creation of podcasts by pre-service teachers to their development of communication skills. To ensure the validity and reliability, the researcher analyzed the items of the questionnaire by conducting a try-out in order to confirm the clarity, relevance, and consistency of items. The instrument of the questionnaire was tested to the students who have experience with podcast creation in the English Education at Sriwijaya University that consisted of 30 students. The result of the test was analyzed by using Pearson Correlation Coefficient formula. The result of significant score of Pearson Correlation was compared with  $r_{table}$  (0.361). From Pearson Correlation Formula, it was also found that all of the items were considered valid, since the score of significance are higher than 0.361.

To know the reliability of the items, internal consistency reliability in Split half reliability coefficient with Spearman-Brown formula was used. Based on the analysis, it was found that all items were reliable since the score of significance should be at least 0.70. All questionnaires exhibit excellent reliability, with Guttman Split-Half Coefficients exceeding 0.952 for integrating technology in creating podcast, 0.946 for the impact of collaborative creation on podcast, 0.939 for dynamics of collaborative in the creation of podcasts, and 0.933 for challenges and benefits when creating on podcast project.

In this study, a 4-point Likert scale was chosen (1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree) to measure respondents' levels of agreement or disagreement with each item. The decision to use a 4-point scale, rather than the more common 5- or 7-point scales, was based on the need to encourage decisive responses. By excluding a neutral option, respondents were encouraged to reflect more deeply on each statement and commit to a positive or negative stance, which can provide clearer insights into perceptions and attitudes). The data collection process involved distributing an online questionnaire to pre-service teachers in the English Education Study Program at Sriwijaya University. The survey, created with Google Forms, was shared via WhatsApp to facilitate easy access and encourage participation. After collecting the responses, the data were organized for analysis. Each survey item, measuring perceptions of technology integration and experiences with collaborative podcast creation, used a 4-point Likert scale. Descriptive analysis calculated the mean and standard deviation for each item, providing insights into respondents' overall agreement levels and identifying trends in attitudes toward podcast creation as a communication skills development tool. This analysis helped outline common sentiments and potential challenges related to collaborative podcasting in English language education, informing recommendations for improving educational practices.

### 3. FINDINGS AND DISCUSSION

#### 3.1. Integrating Technology in Creating Podcast in English Language Teaching

**Table 1.** Perception of Technology Integration in Creating Podcast in English Language Teaching

No	Statement	Likert Scale			
		Strongly Disagree	Disagree	Agree	Strongly Agree
1	Integrating technology in creating podcast enhances the effectiveness of English language education.	1 (0.9%)	1 (0.9%)	62 (54.9%)	49 (43.4%)
2	I am comfortable with using technology when creating podcast in your English language teaching practices	1 (0.9%)	1 (0.9%)	47 (41.6%)	64 (56.6%)
3	The usefulness of technology in improving students' language skills.	1 (0.9%)	1 (0.9%)	64 (56.6%)	47 (41.6%)
4	I am confidence in incorporating technology into various aspects of English language education after creating podcast (e.g., lesson planning, instructional delivery, assessment).	0 (0%)	2 (1.8%)	60 (53.1%)	51 (45.1%)
5	I often use technology-based resources (e.g., educational apps, online platforms, multimedia content) in my English language teaching after creating podcast.	1 (0.9%)	2 (1.8%)	53 (46.9%)	57 (50.4%)
6	After creating podcast, I am familiar with different types of educational technology tools	1 (0.9%)	4 (3.5%)	60 (53.1%)	48 (42.5%)

	and platforms relevant to English language education after creating podcast.				
7	After creating podcast, I believe technology can facilitate differentiated instruction and cater to diverse learning needs in English language classrooms	0 (0%)	2 (1.8%)	58 (51.3%)	53 (46.9%)
8	After creating podcast, I believe that the role of technology in promoting student engagement and motivation in English language learning.	1 (0.9%)	1 (0.9%)	69 (61.1%)	42 (37.2%)
9	After creating podcast, I believe that technology integration aligns with the goals and objectives of English language education curriculum at my study program.	0 (0%)	3 (2.7%)	65 (57.5%)	45 (39.8%)
10	After creating podcast, I am ready to adapt to emerging educational technologies and innovations in English language teaching.	1 (0.9%)	2 (1.8%)	59 (52.2%)	51 (45.1%)
11	Integrating technology in creating podcast enhances student engagement and participation in English language learning.	1 (0.9%)	1 (0.9%)	60 (53.1%)	51 (45.1%)
12	Technology integration facilitates in creating podcast personalized learning experiences tailored to individual student needs in English language education.	1 (0.9%)	1 (0.9%)	66 (58.4%)	45 (39.8%)
13	Utilizing technology in creating podcast enhances the authenticity and relevance of learning materials and resources in English language education	1 (0.9%)	1 (0.9%)	72 (63.7%)	39 (34.5%)
14	Integrating technology in creating podcast promotes active and collaborative learning environments conducive to English language acquisition.	1 (0.9%)	1 (0.9%)	58 (51.3%)	53 (46.9%)
15	Technology-enhanced instruction in creating podcast improves students' motivation and enthusiasm for learning English language skills.	0 (0%)	2 (1.8%)	58 (51.3%)	53 (46.9%)

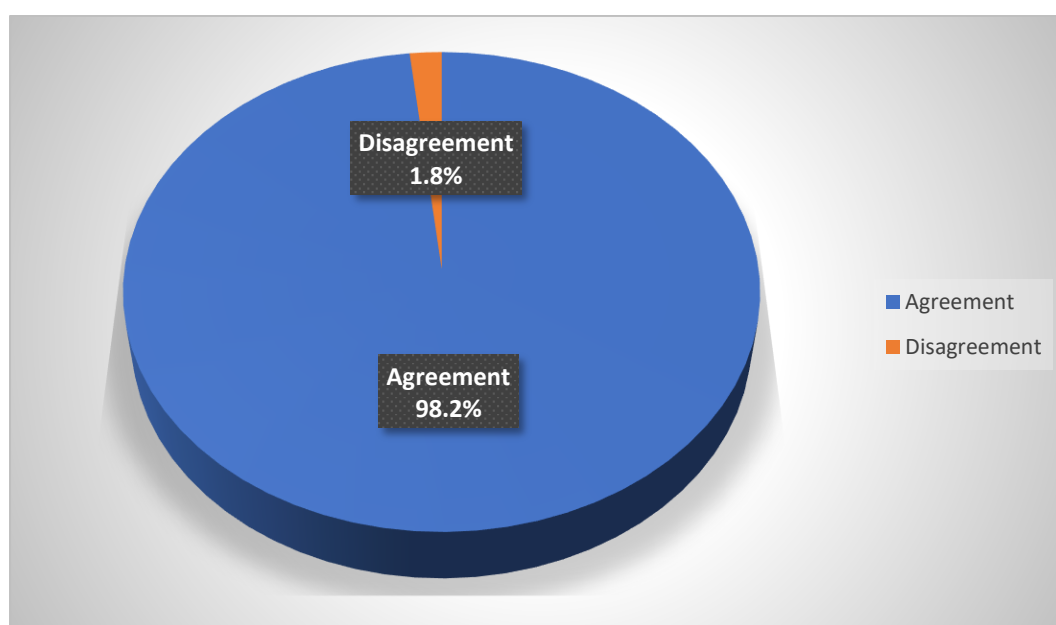
Source: Primary Data, 2024

Table 1 shows that the majority of respondents acknowledged that integrating technology into teaching and learning is advantageous in a variety of contexts. In particular, there was little dissent (0.9%), with 54.9% agreeing and 43.4% strongly agreeing that using technology in podcast creation improves the efficacy of English language instruction. There was also a high level of comfort with technology, with 41.6% agreeing and 56.6% strongly agreeing that they are comfortable using it to create podcasts. Additionally, respondents felt that technology was helpful in helping pupils become more proficient in language; 41.6% strongly agreed and 56.6% agreed.

Following the construction of the podcast, 45.1% of respondents strongly agreed and 53.1% agreed that they were confident in using technology to improve various facets of English language instruction. After creating a podcast, the majority (50.4% strongly agree and 46.9% agree) frequently use technology-based resources. There was a significant level of familiarity with various educational technology tools,

as indicated by the 42.5% strong agreement and 53.1% agreement. Technology helps differentiated instruction, according to respondents; 51.3% and 46.9% strongly agree. Furthermore, 37.2% of respondents strongly agreed that technology increases student motivation and engagement (61.1% agreed). The majority of respondents (57.5%, 39.8% strongly agreeing) also said that integrating technology into the curriculum is in line with its objectives.

Regarding preparedness to adjust to new technology, 52.2% and 45.1% highly agreed. The majority also believed that technology improves student participation and engagement; 53.1% agreed and 45.1% strongly agreed. Ultimately, it was determined that technology promoted active and collaborative learning environments (46.9% strongly agree, 51.3% agree), improved students' motivation and enthusiasm for learning English language skills (46.9% strongly agree, 51.3% agree), enhanced the authenticity and relevance of learning materials (34.5% strongly agree, 63.7% agree), and facilitated personalized learning experiences (39.8% strongly agree, 58.4% agree). There was very little disagreement with any of the statements.



**Figure 1.** The Agreement Level of Integrating Technology in Creating Podcast in English Language Teaching

The figure 1 illustrates the level of agreement regarding the integration of technology in creating podcasts for English language teaching. A significant majority of respondents, representing 98.2%, expressed agreement, emphasizing the positive reception and widespread approval of this approach. In contrast, only a small fraction, accounting for 1.8%, expressed disagreement. This result underscores a strong consensus among participants on the effectiveness and importance of incorporating podcasts as a technological tool in the English language teaching process.

**Table 2.** The relationship between various predictors and the perceived effectiveness of integrating technology in creating podcasts for enhancing English language education

Predictors	B	Sig.
I am comfortable with using technology when creating podcast in your English language teaching practices	.378	.000
The usefulness of technology in improving students' language skills.	.365	.000
I am confidence in incorporating technology into various aspects of English language education after creating podcast (e.g., lesson planning, instructional delivery, assessment).	.040	.629
I often use technology-based resources (e.g., educational apps, online platforms, multimedia content) in my English language teaching after creating podcast.	-.056	.460
After creating podcast, I am familiar with different types of educational technology tools and platforms relevant to English language education after creating podcast.	.038	.661
After creating podcast, I believe technology can facilitate differentiated instruction and cater to diverse learning needs in English language classrooms	.311	.001
After creating podcast, I believe that the role of technology in promoting student engagement and motivation in English language learning.	-.069	.459
After creating podcast, I believe that technology integration aligns with the goals and objectives of English language education curriculum at my study program.	.031	.727
After creating a podcast, I am ready to adapt to emerging educational technologies and innovations in English language teaching.	-.355	.000
Integrating technology in creating podcast enhances student engagement and participation in English language learning.	.206	.017
Technology integration facilitates in creation podcast personalized learning experiences tailored to individual student needs in English language education.	.054	.564
Utilizing technology in creating podcast enhances the authenticity and relevance of learning materials and resources in English language education	.257	.013
Integrating technology in creating podcast promotes active and collaborative learning environments conducive to English language acquisition.	-.127	.135
Technology-enhanced instruction in creating podcast improves students' motivation and enthusiasm for learning English language skills.	-.130	.153

Source: Primary Data, 2024

The results presented in Table 2 highlight the relationship between various predictors and the perceived effectiveness of integrating technology in creating podcasts for enhancing English language education. The analysis reveals several significant predictors that positively influence the perceived effectiveness of technology integration. Notably, the comfort level with using technology when creating podcasts is a strong predictor ( $B = 0.378$ ,  $p < 0.001$ ), indicating that educators who feel comfortable with technology are more likely to perceive its integration as effective. Similarly, the perceived usefulness of technology in improving students' language skills also shows a significant positive relationship ( $B = 0.365$ ,  $p < 0.001$ ), suggesting that educators who recognize the benefits of technology in language learning are more inclined to view its integration favorably.

Another significant predictor is the belief that technology can facilitate differentiated instruction to cater to diverse learning needs ( $B = 0.311$ ,  $p = 0.001$ ). This finding emphasizes the importance of technology in addressing varied student requirements, which is crucial for effective language education. Additionally, the statement "Integrating technology in creating podcasts enhances student engagement and participation in English language learning" is significant ( $B = 0.206$ ,  $p = 0.017$ ), reinforcing the idea that technology can actively engage students in the learning process. Furthermore, the predictor regarding the enhancement of authenticity and relevance of learning materials through technology integration is also significant ( $B = 0.257$ ,  $p = 0.013$ ), indicating that educators perceive technology as a means to create more relevant and engaging educational content.

Conversely, several predictors did not show significant relationships with perceived effectiveness. For instance, confidence in incorporating technology into various aspects of English language education ( $B = 0.040$ ,  $p = 0.629$ ) and familiarity with educational technology tools ( $B = 0.038$ ,  $p = 0.661$ ) were not statistically significant, suggesting that these factors alone may not strongly influence perceptions of effectiveness. Additionally, the readiness to adapt to emerging educational technologies showed a significant negative relationship ( $B = -0.355$ ,  $p < 0.001$ ), indicating that lower readiness to adapt may correlate with a decreased perception of effectiveness. This counterintuitive result may suggest that educators who feel less prepared to embrace new technologies may also perceive their integration as less effective. Overall, these findings underscore the critical role of comfort and perceived usefulness in the successful integration of technology in English language education through podcasting.

### 3.2 The Impacts of Collaborative Creation of Podcasts on Communication Development Skills

**Table 3.** Perception of the Impact of Collaborative Creation of Podcasts on Communication Development

No	Statement	Likert Scale			
		Strongly Disagree	Disagree	Agree	Strongly Agree
1	My communication skills are good enough before participating in collaborative podcast creation.	1 (0.9%)	8 (7.1%)	74 (65.5%)	30 (26.5%)
2	My communication skills increase after participating in collaborative podcast creation.	1 (0.9%)	2 (1.8%)	64 (56.6%)	46 (40.7%)
3	Participating in collaborative podcast creation has improved my communication skills.	1 (0.9%)	2 (1.8%)	58 (51.3%)	52 (46%)
4	I am able to articulate ideas and information clearly and effectively during collaborative podcast creation	1 (0.9%)	1 (0.9%)	66 (58.4%)	45 (39.8%)
5	I am confident to actively listening and responding to others' ideas and perspectives during collaborative podcast creation.	2 (1.8%)	3 (2.7%)	71 (62.8%)	37 (32.7%)
6	I can use verbal and nonverbal communication techniques to convey messages effectively in collaborative podcast projects.	0 (0%)	3 (2.7%)	60 (53.1%)	50 (44.2%)
7	Participating in collaborative podcast creation has enhanced my ability to collaborate and work effectively in a team	0 (0%)	2 (1.8%)	67 (59.3%)	44 (38.9%)
8	I believe collaborative podcast creation has helped me develop skills in constructive feedback and peer evaluation	1 (0.9%)	4 (3.5%)	57 (50.4%)	51 (45.1%)
9	I am able to adapt communication strategies and techniques to suit different audience preferences and needs during collaborative podcast creation	1 (0.9%)	3 (2.7%)	63 (55.8%)	46 (40.7%)
10	Participating in collaborative podcast creation has improved my ability to express ideas and concepts in a concise and coherent manner.	1 (0.9%)	2 (1.8%)	66 (58.4%)	44 (38.9%)

11	Collaborative podcast creation enhances my ability to articulate ideas and information effectively.	1 (0.9%)	1 (0.9%)	64 (56.6%)	47 (41.6%)
12	Working on podcast projects collaboratively improves my active listening skills	1 (0.9%)	2 (1.8%)	68 (60.2%)	42 (37.2%)
13	Collaborative podcast creation fosters teamwork and cooperation among students	1 (0.9%)	2 (1.8%)	69 (61.1%)	41 (36.3%)
14	Engaging in collaborative podcast projects enhances my ability to provide and receive constructive feedback	2 (1.8%)	1 (0.9%)	75 (66.4%)	35 (31%)
15	Collaborative podcast creation improves my proficiency in adapting communication strategies to suit different audience preferences.	1 (0.9%)	2 (1.8%)	67 (59.3%)	43 (38.1%)

Source: Primary Data, 2024

The result in table 6 demonstrated that respondents' opinions of their communication abilities and the ways in which taking part in group podcast production has affected them. Prior to participating in collaborative podcast creation, 65.5% of respondents thought that their communication skills were adequate, with 26.5% strongly agreeing. Only 8% disagreed or severely disagreed. A significant proportion of participants (56.6% agree, 40.7% strongly agree) indicated an increase in their communication skills after working together to create podcasts. The fact that 51.3% of respondents agreed and 46% strongly agreed that this practice had enhanced their communication abilities further supports this development.

39.8% of the respondents strongly agreed that they could articulate ideas and information clearly when creating podcasts, while 58.4% of the respondents agreed overall. Strong agreement was also observed in the confidence to actively listen and respond to the opinions of others, with 62.8% agreeing and 32.7% strongly agreeing. 53.1% of respondents agreed and 44.2% strongly agreed that they felt skilled in using both verbal and nonverbal communication approaches. In a similar vein, 59.3% agreed and 38.9% strongly agreed that making podcasts improved their capacity for teamwork and collaboration.

54% of respondents agreed, and forty-five percent strongly agreed, that creating podcasts together had been helpful in honing their abilities to provide constructive criticism and peer evaluation. With 55.8% agreeing and 40.7% strongly agreeing, the majority also found that they could modify communication tactics to meet the demands of various audiences. There was agreement from 58.4% and strong agreement from 38.9% of respondents regarding the capacity to communicate ideas succinctly and logically. Furthermore, 56.6% of respondents agreed and 41.6% strongly agreed that creating podcasts together improved their capacity for clear and concise communication.

Through group work, active listening abilities increased, with 60.2% of respondents agreeing and 37.2% strongly agreeing. Additionally, podcast creation was shown to enhance cooperation and teamwork, with 61.1% of respondents strongly agreeing and 36.3% agreeing that it did so. Based on 66.4% agreement and 31% strong agreement, the experience improved respondents' capacity to provide and receive constructive feedback even more. In conclusion, many people become more adept at tailoring communication techniques to the preferences of various audiences; 59.3% of respondents agreed, and 38.1% strongly agreed. Overall, the statistics show that collaborative podcast creation improved respondents' communication abilities in a number of different ways.

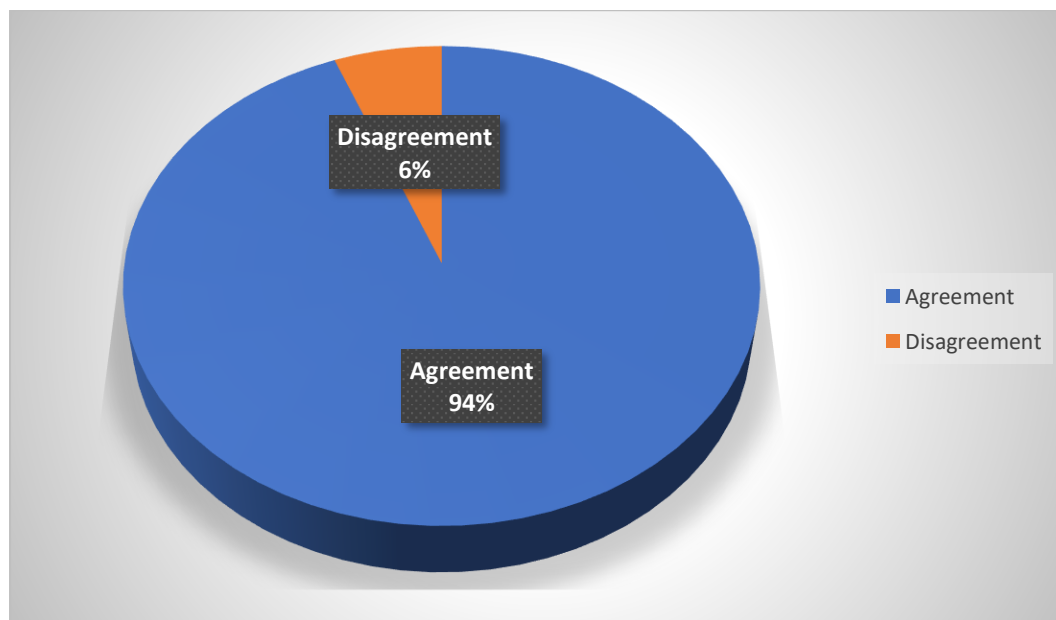


Figure 2. The Agreement Level Collaborative Creation of Podcast for Communication Skill

Figure 2 illustrates the agreement level regarding the effectiveness of collaborative podcast creation in improving communication skills. A substantial majority of respondents, 94%, expressed agreement, indicating a strong consensus that collaborative podcast activities positively contribute to the development of communication abilities. In contrast, only 6% of respondents expressed disagreement, suggesting minimal skepticism or lack of perceived benefit in this approach. These results highlight the overwhelming recognition of collaborative podcast creation as a valuable tool for enhancing communication skills.

Table 4. The relationship between various communication skills and the perceived improvement in communication skills due to participation in collaborative podcast creation

Predictors	B	Sig.
I am able to articulate ideas and information clearly and effectively during collaborative podcast creation	.334	.000
I am confident in actively listening and responding to others' ideas and perspectives during collaborative podcast creation.	-.011	.903
I can use verbal and nonverbal communication techniques to convey messages effectively in collaborative podcast projects	-.052	.606
Participating in collaborative podcast creation has enhanced my ability to collaborate and work effectively in a team.	.207	.057
I believe collaborative podcast creation has helped me develop skills in constructive feedback and peer evaluation	.169	.079
I am able to adapt communication strategies and techniques to suit different audience preferences and needs during collaborative podcast creation	.191	.035
Collaborative podcast creation fosters teamwork and cooperation among students	.103	.399
Collaborative podcast creation improves my proficiency in adapting communication strategies to suit different audience preferences	.031	.766

Source: Primary Data, 2024

The results presented in Table 4 illustrate the relationship between various communication skills and the perceived improvement in communication skills attributed to participation in collaborative podcast creation. Notably, the ability to articulate ideas and information clearly and effectively during collaborative podcast creation emerged as a significant predictor of perceived communication skill

enhancement, with a coefficient (B) of 0.334 and a p-value of 0.000. This finding underscores the importance of clear articulation in fostering communication development within collaborative contexts. Conversely, the confidence to actively listen and respond to others' ideas showed a negligible negative relationship (B = -0.011, p = 0.903), indicating that this factor did not significantly contribute to perceived improvements in communication skills. Similarly, the ability to use verbal and nonverbal communication techniques (B = -0.052, p = 0.606) and the fostering of teamwork (B = 0.103, p = 0.366) were also non-significant predictors, suggesting that these aspects may not have a direct impact on participants' perceptions of their communication skill improvements.

On the other hand, participating in collaborative podcast creation enhanced the ability to collaborate effectively in a team (B = 0.207, p = 0.057), which approaches significance and indicates a potential positive influence on communication skills. Additionally, the belief that collaborative podcast creation aids in developing constructive feedback skills (B = 0.169, p = 0.079) also suggests a trend towards improvement, although it does not reach conventional significance levels. Importantly, the ability to adapt communication strategies to suit different audience preferences was found to be a significant predictor (B = 0.191, p = 0.035), highlighting the relevance of adaptability in communication within collaborative settings. In contrast, the predictors related to improving proficiency in adapting communication strategies (B = 0.031, p = 0.766) did not show a significant relationship, indicating that this aspect may require further exploration. Overall, these findings suggest that specific communication skills, particularly articulation and adaptability, play a crucial role in enhancing perceived communication abilities through collaborative podcast creation, while other factors may need further investigation to understand their impact fully.

## Discussion

This study explored EFL students' perceptions of integrating technology into English language education through podcast creation and how collaborative podcasting impacts pre-service teachers' communication skills at Sriwijaya University. Participants included fourth, sixth, and eighth-semester English Education students. The results showed strong support for using podcasts as an effective learning tool. Students agreed that podcasting enhances teaching and learning by promoting language acquisition and engagement. Prior studies, such as Laiya et al. (2022) and Hamid et al. (2024), highlight podcasts' ability to capture students' interest and improve performance when integrated into the curriculum. Podcasts were also found to simplify complex concepts, as noted by McNamara et al. (2020), enabling students to revisit material at their own pace and boosting motivation. Aligning podcast content with learning goals, as emphasized by Sotlikova and Haerazi (2023), further enhances targeted skill development and practice, underscoring the value of podcasts in fostering meaningful and effective language learning experiences.

Educators' high comfort levels with technology suggest they are well-prepared to use these tools in teaching. Fachriza et al. (2023) note that podcasts are part of a broader trend of incorporating authentic materials to enrich learning. Harahap and Rizal (2023) highlight that podcasts improve cognitive and productive language skills, showing educators value accessible tools that enhance learning. Aprianto (2024) emphasizes podcasts' ability to boost student interest in language learning through diverse and engaging content, while Chaves-Yuste and de-la Pena (2023) and Nikbakht and Mazdayasna (2023) confirm that podcasts improve academic performance and language skills compared to traditional methods.

However, challenges remain. While educators are confident using technology for teaching, many feel less prepared to integrate it effectively into lesson planning and assessment (B = 0.040, p = 0.629). Gomez et al. (2021) and Bayrak and Bayrak (2021) stress that self-confidence in technological pedagogical knowledge is crucial for success, and in-service training can significantly boost confidence. This underscores the need for professional development to bridge gaps in applying technology across all teaching areas. Without this, the full potential of technology in education may not be realized.

Alelaimat et al. (2020) emphasize the importance of preparing pre-service teachers to integrate technology into their teaching practices. They suggest that teacher education programs should focus on incorporating technology into lesson objectives, content, methods, and assessments to build confidence. Chisango and Marongwe (2022) support this, finding that practical ICT use in teacher training significantly boosts confidence in creating tech-integrated lesson plans. Similarly, Önalın and Kurt (2020) highlight that while many Turkish EFL teachers have the knowledge to use technology, they often lack the confidence to apply it effectively in classrooms. Tucker et al. (2024) also note that teachers may understand the theory of technology integration but struggle with its practical application, stressing the need for targeted professional development.

Educators' readiness to adapt to new technologies is another concern. A negative readiness coefficient ( $B = -0.355$ ,  $p < 0.001$ ) suggests that teachers who feel less prepared may view technology integration as less effective, limiting its benefits in language education. Although many teachers acknowledge technology's potential to boost student engagement and motivation, these impacts often lack clear statistical support, requiring further study.

Divjak et al. (2022) highlight the need for adaptive educational practices, especially during transitions like the shift to blended learning during COVID-19. Similarly, Boateng and Kalonde (2024) advocate for using structured models like SAMR to guide technology integration and enhance engagement. However, barriers such as insufficient training and resistance to new technologies remain significant, as noted by Sismanto et al. (2024) and Zhang and Tahir (2023). Addressing these challenges requires fostering a growth mindset and providing adequate training and support for educators.

In conclusion, while the findings suggest a strong endorsement of technology integration in English language education through podcasting, it is essential to recognize the challenges and limitations that may impede its effectiveness. Addressing issues of confidence, preparedness, and the nuanced impact of technology on student engagement will be crucial for maximizing the benefits of technology in language instruction. Future research should focus on developing targeted professional development programs that enhance educators' confidence and readiness to integrate technology effectively, ensuring that the potential advantages of technology in education are fully realized.

This study explored how collaborative podcast creation impacts EFL students' communication skills at Sriwijaya University. The data shows that most respondents experienced significant improvements in communication abilities through group podcast projects. Specifically, 56.6% of participants reported enhanced communication skills, and 51.3% agreed that podcasting improved their abilities, highlighting its value as a teaching tool. Enríquez et al. (2023) support this, noting that creating podcasts transforms learning into a meaningful and engaging process, aligning with constructivist principles by encouraging active content creation and collaboration. Similarly, Almendingen et al. (2021) found that podcasts foster teamwork and communication, further validating their educational benefits.

Research also shows that podcasting improves listening and speaking skills. Singh et al. (2023) found that podcasts capture attention and boost engagement, while Harahap et al. (2023) emphasized their role in enhancing speaking and listening skills. Ghoorchaei et al. (2021) noted that podcasts help with vocabulary acquisition and overall communication, and Sotlikova and Haerazi (2023) argued they enhance self-efficacy and positive attitudes towards learning.

Participants in this study also reported clearer articulation of ideas, with 39.8% strongly agreeing they expressed thoughts effectively during podcasting. Confidence in active listening improved, with 62.8% reporting better listening skills. These findings align with Hamid (2024), who found collaborative activities like podcasting enhance communication, particularly in English language learning. Podcasts' ability to improve active listening and idea articulation underscores their effectiveness in fostering key communication competencies in educational settings.

In addition, Sabrila and Apoko (2022) found that the use of podcasts significantly improved students' listening comprehension skills, indicating that podcasts not only enhance articulation but also promote active listening. This is further supported by Saragih et al. (2022), who concluded that podcasts

positively affect students' listening skills, reinforcing the notion that collaborative podcasting can enhance both speaking and listening competencies. Moreover, the work of Ghoorchaei et al. (2021) supports the idea that podcasts are beneficial learning tools, enabling students to learn effectively through listening. This aligns with the findings that articulate the importance of clear communication and active listening in collaborative settings, suggesting that podcasting can serve as a powerful medium for developing these essential skills.

Statistical analysis reveals some complexities in students' perceptions of their communication skills. While participants reported increased confidence in listening and using verbal and nonverbal techniques, these self-reported gains did not always match measurable improvements. Baecker (2022) notes that while podcasting enhances students' perception of their skills, it does not consistently improve all aspects of communication. Similarly, Hamid et al. (2024) found that the effectiveness of podcasts varies depending on the learning environment and targeted skills. Almendingen et al. (2021) observed mixed results in improving nonverbal communication, and Yuan et al. (2021) cautioned that podcasts may not always meet expectations for specific skills like active listening. Sotlikova and Haerazi (2023) also highlight that while podcasts boost self-efficacy and attitudes toward learning, their actual impact on communication skills can be limited.

Adaptability in communication is increasingly seen as essential, especially in collaborative settings with diverse audiences. Studies show that those who tailor messages effectively see greater improvements in communication skills (Hoffmann-Longtin et al., 2022). Employers also value audience awareness and adaptability as key traits (Coffelt & Smith, 2020). Clough et al. (2022) emphasize that adjusting communication strategies to audience needs ensures messages are received as intended. Similarly, Woodside et al. (2023) stress training students in adaptable communication for diverse contexts, which Saari et al. (2021) identify as critical for workforce readiness in the Fourth Industrial Revolution.

In conclusion, collaborative podcasting significantly enhances skills like articulation and adaptability, but other areas may need more focus. These findings support integrating podcasting into education while highlighting the need for targeted interventions to address gaps and maximize its impact on communication skills.

#### 4. CONCLUSION

This study aimed to investigate EFL students' perceptions of integrating technology in creating podcasts and the impacts of collaborative creation of podcasts on communication development skills among pre-service teachers at Sriwijaya University. In conclusion, the integration of technology through collaborative podcast creation presents a valuable opportunity for enhancing communication skills in English language education. The positive perceptions among pre-service teachers and the reported improvements in communication abilities underscore the potential of podcasts as an effective pedagogical tool. However, addressing the challenges related to educators' confidence and preparedness, as well as the nuanced impact of podcasting on specific communication skills, will be crucial for maximizing the benefits of this approach. Future research should focus on developing targeted professional development programs to equip educators with the necessary skills and confidence to integrate technology effectively into their teaching practices.

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